PHSB STUDIES

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MORTALITY IN NORTH CAROLINA CITIES

Increasingly during the 1970's, high-speed computers have given rise to large volumes of population-based statistical data for counties. Not so for cities, however, due to the fact that annexation generally precludes reliable intercensal population bases in the required detail. Thus, this paper uses deaths during 1968 through 1972 and the midyear population (1970 Census) to examine age-race-sex-adjusted mortality in 38 North Carolina cities. These cities were each incorporated and had population exceeding 10,000 in 1970.

The table on page 2 ranks the cities with respect to total and selected cause-specific mortality rates (adjusted). Examination of these data reveals that Hickory and Sanford, followed by Goldsboro, Jacksonville, Eden, Fayetteville, Lumberton and Shelby, were relatively unhealthy places to live during the period of study. These eight cities each experienced age-race-sex-adjusted mortality in excess of 11.0 deaths per 1,000 population while the state experienced a rate of 8.9. At the same time, the cities of Morganton and Chapel Hill appear relatively healthy places to have lived, each experiencing a rate below 7.0 for the 5-year period.

Investigators of local health conditions should use the data of this report to ascertain cause-specific problem areas and to postulate and investigate possible reasons. One must wonder, for example, what—if not age, race and sex distributions—are the factors contributing to wide disparity in the city death rates. Why should such demographically similar places as Shelby and Morganton be experiencing drastically different heart disease rates? Located in adjacent western counties, each is a county seat. Apparent levels of health care resources appear about the same for each city, but Morganton residents—being associated with nearby Broughton Hospital—more often work in the health field. Other differences include elevation—Shelby at 853 feet and Morganton at 1,182—and Shelby supports more textile manufacturing and more agriculture-related activity. Although income levels are slightly lower in Shelby than in Morganton, education levels are about the same.

To what extent are the above differences contributing—directly or indirectly—to a wide difference in the two cities' heart disease experience? Is differential diagnosis and reporting a significant factor? Are all known differences taken together sufficient to explain Shelby's more than four-fold heart disease mortality over that of Morganton? What factors cause Morganton's heart disease mortality to be only one-third the statewide level? Or are the responsible factors yet unknown or unmeasured?

Again, consider the twin cities of Lexington and Salisbury. Located in adjacent counties and only 17 miles apart, Lexington's heart disease rate (441.6) is at the upper end of the range while Salisbury's (274.3) is at the lower end. Income levels are about the same, bu Lexington residents are less well educated, more often work in manufacturing (particularly furniture), and appear exposed to considerably less in terms of health care resources.

Also located in adjacent counties, Charlotte and Gastonia are another example of disparate heart disease mortality. Here, obvious differences between the cities include considerably higher levels of income, education and health care resources in the case of Charlotte with considerably more textile manufacturing occurring in Gastonia.